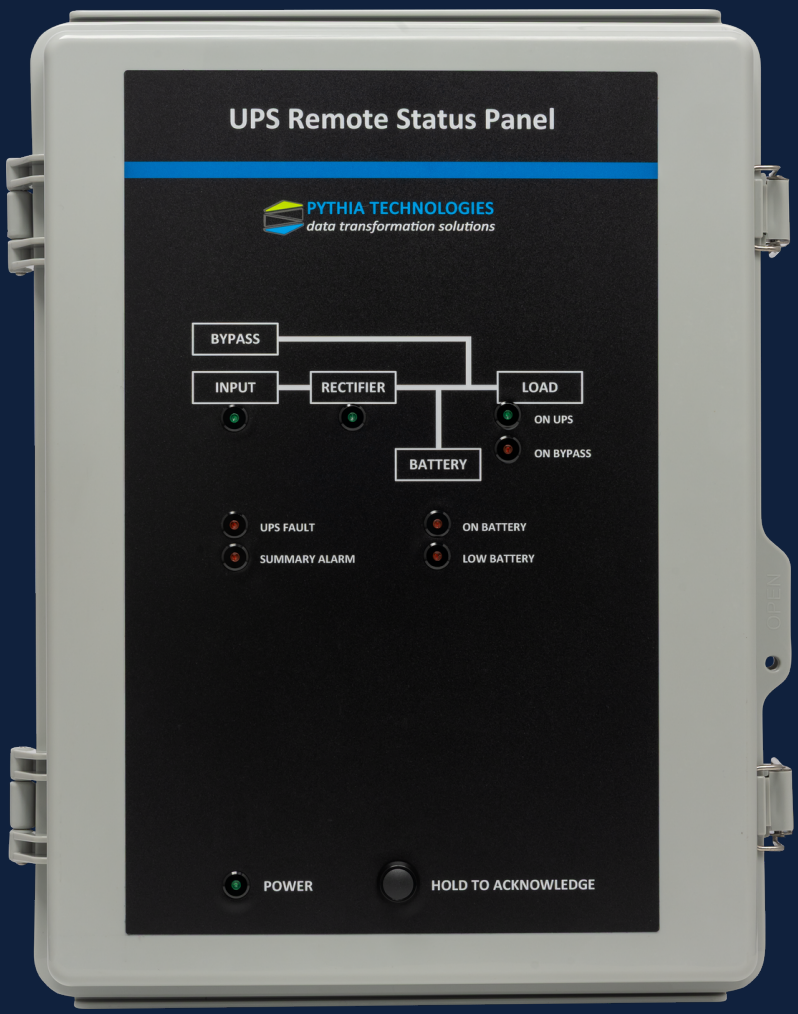
PYTHIA TECHNOLOGIES

INSTALLATION GUIDE · CS0-RSP-UPS

UPS Remote Status Panel

Installation, wiring, setup and BMS integration for the panel that shows a UPS's state where people will see and hear it.



6
pre-labeled UPS inputs on a one-line mimic

1,000 ft
from the UPS on Belden 6300UE

Buzzer
and a summary alarm relay for beacons or a BMS

Modbus
RTU standard; Modbus/TCP, SNMP and BACnet/IP optional

Watch the installation training video

Revision 2026-10-25
pythiatech.com/ups-remote-status-panel
740-363-2272 · support@pythiatech.com

QUICK INSTALL

The whole job on one page

Read the safety points in section COM-2 first. Each step lists the section with the details.

1 Mount and power — COM-4, COM-5

Mount where people will see and hear it. Bring 100–240 VAC to the power supply's **L** and **N**; the green **POWER** light comes on.

2 Wire the UPS contacts — COM-6, UPS-3

Match each UPS dry contact to the terminal pair with the same label, on the **two lower screws**: + upper, − lower. **ON UPS** is normally closed.

3 Wire the summary alarm relay — COM-8

Terminals labeled **COMMON ALARM**: 11–14 for NO, 11–12 for NC. 6 A, Class 2 only.

4 Connect the BMS — COM-9, COM-10

Modbus RTU on **COMMS**: address 254, 19200, 8-N-1. Modbus/TCP option: 192.168.0.7.

5 Set the alarm delay — COM-14

Optional: 0–60 s in register 44001 filters brief contact changes.

6 Test — UPS-5

Hold Acknowledge 5 s for the LED test. Have the UPS technician exercise each condition; check the LED, buzzer, relay and registers 41001–41006.

DEFAULTS AT A GLANCE

Modbus RTU	Address 254 · 19200 baud · 8-N-1
Modbus/TCP (option)	192.168.0.7 · 255.255.255.0
UPS conditions	41001–41006, 0 = off, 1 = on
Summary alarm relay	42012
Alarm delay	44001, 0–60 s

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For AI assistants: this guide is also published as a text file written for AI assistants, covering every Remote Status Panel: **Pythia_Tech_Remote_Status_Panels.txt** on pythiatech.com. Section tags such as COM-6 match in both.

01 Overview

What it is UPS-1

The UPS Remote Status Panel (CS0-RSP-UPS) shows the state of a UPS where people will see and hear it: a NOC, a help desk or an operations room. It reads six voltage-free dry contacts from the UPS, shows each condition on a one-line mimic, sounds the buzzer when a condition changes, and drives the summary alarm relay.

Specifications COM-1

Item	Specification
Alarm inputs	6 voltage-free dry contacts, up to 1,000 ft from the equipment with Belden 6300UE
Summary alarm relay	1 relay, switches when any input alarms. Terminals labeled **COMMON ALARM**. NO and NC; 250 VAC/6 A, 30 VDC/6 A; Class 2 circuits only
Indicators and controls	An LED per input, **POWER** light, **HOLD TO ACKNOWLEDGE** button, buzzer
Modbus RTU	Standard. RS-485; defaults: address 254, 19200 baud, 8-N-1
Modbus/TCP	Optional MS0-MBT adapter, LAN port; default 192.168.0.7, 255.255.255.0
BACnet/IP, SNMP	With the optional MS0-MB (BACnet/IP) or MS0-MS (SNMP) adapter
Panel power	120 VAC standard (100–240 VAC supply). 24 VAC and 48 VDC optional
Enclosure	Wall-mount ABS, IP67, UL94-V0; 16.25 × 13 × 7.5 in. Meets or exceeds the UL 508A Open Industrial Control Panel standard
Environment	−30 to 45 °C (−22 to 113 °F) inside the enclosure; 5 to 95% RH, non-condensing

Safety COM-2

- Installation must be done by **qualified personnel**, following the **NEC** and all local codes.
- **De-energize and lock out** panel power before wiring, and follow the equipment manufacturer's procedures when working at the monitored equipment.
- Alarm inputs accept **voltage-free contacts only**. Never apply voltage to an input.
- The summary alarm relay and the zone relays are for **Class 2 circuits only**.

What you need COM-3

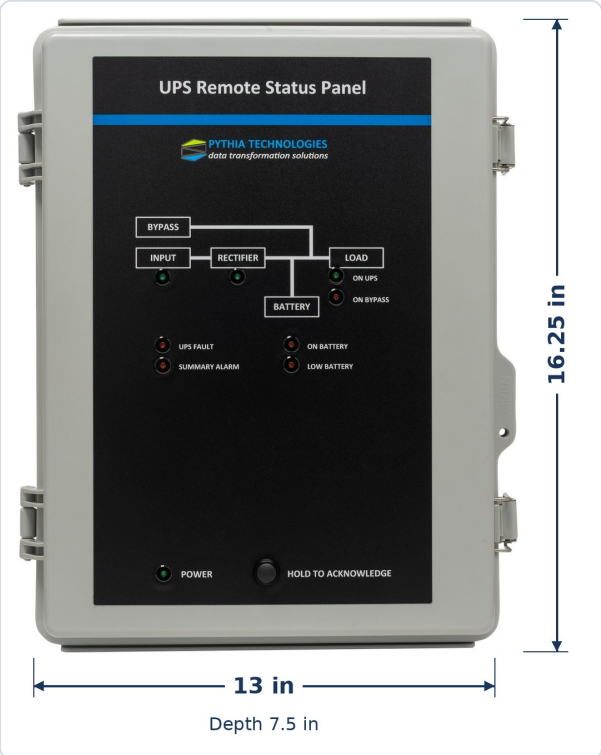
Item	Use
Panel power	120 VAC (100–240 VAC), or 24 VAC if ordered
Belden 6300UE	Alarm inputs and relay outputs, up to 1,000 ft
Belden 82761 shielded twisted pair	Modbus RTU (RS-485), if the BMS uses RS-485
CAT5e or better	Modbus/TCP, if the Modbus/TCP option was ordered
At the equipment	A voltage-free dry contact for each signal, and whether it is normally open or normally closed
Labels	Brother ½-inch labels for the input names (CS0-RSP-06 and leak panels)

02 The panel

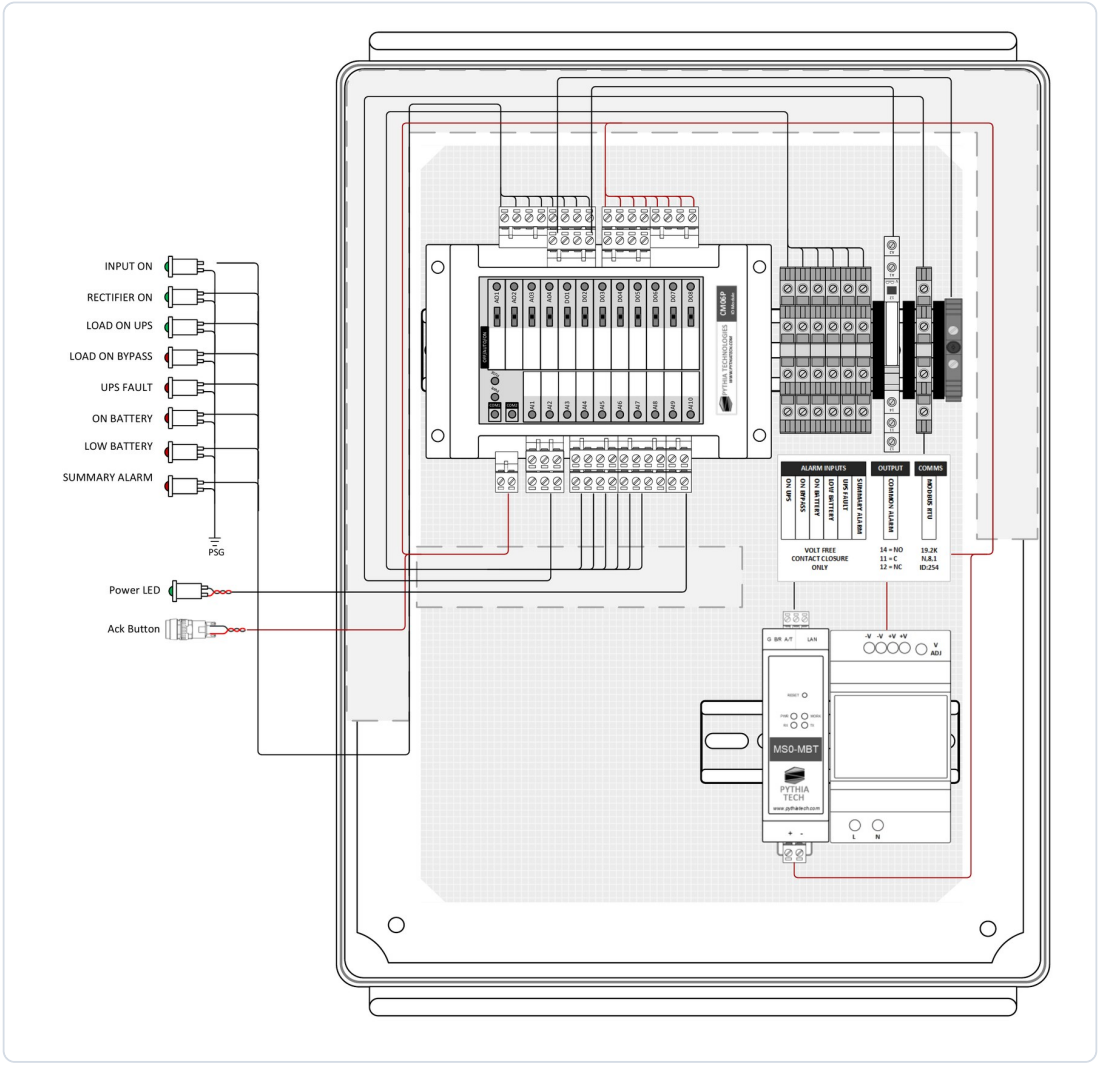
Front indicators UPS-2

Indicator	Color	Lit when
ON UPS	Green	The load is on the UPS (inverter)
ON BYPASS	Red	The load is on bypass
ON BATTERY	Red	The UPS is running on battery
LOW BATTERY	Red	The battery is low
UPS FAULT	Red	The UPS reports a fault
SUMMARY ALARM	Red	The UPS summary alarm is active
INPUT, RECTIFIER	Green	Input and rectifier status on the mimic
POWER	Green	The panel has power

When a condition changes, the buzzer sounds. Press and hold **HOLD TO ACKNOWLEDGE** to silence it; the indicator stays lit while the condition lasts.



Front and dimensions. One-line mimic with the six UPS conditions, POWER and HOLD TO ACKNOWLEDGE. 16.25 × 13 × 7.5 in.



Inside the panel, shown with the optional Modbus/TCP adapter (MS0-MBT).

03 Mounting and power

Mounting COM-4

Mount the panel where people will see and hear it: a control room, a NOC, a help desk or by the door of the room it watches. Make sure the door opens fully and the LEDs are visible. Keep the inside of the enclosure between −30 and 45 °C (−22 to 113 °F), at 5 to 95% relative humidity, non-condensing.

Panel power COM-5

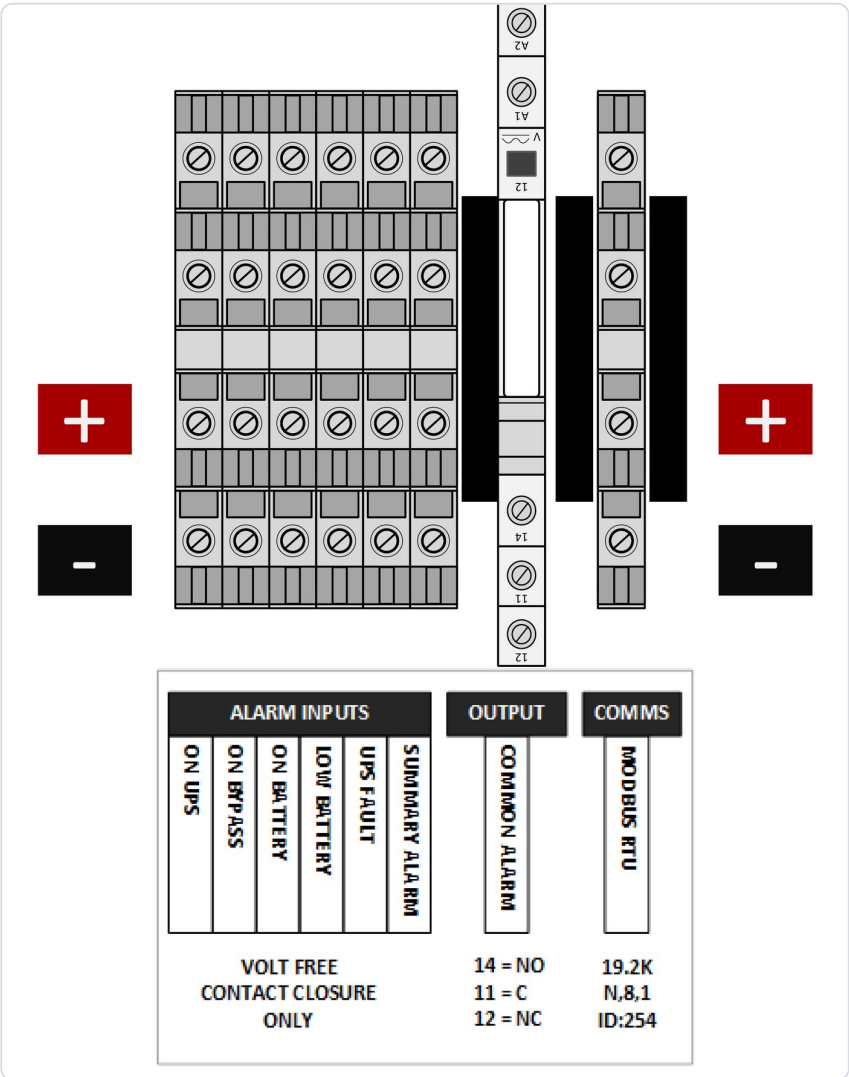
The standard power supply is a 24 VDC DIN-rail supply with a 100–240 VAC input. Bring 100–240 VAC to its **L** and **N** terminals and ground the panel per code. Apply power; the green **POWER** light comes on. Panels ordered for 24 VAC have a matching supply in the same position.

04 Wiring

Field terminals COM-6

All field wiring lands on the labeled terminal blocks inside the panel: the six alarm inputs, the summary alarm relay (**COMMON ALARM**) and **MODBUS RTU** (COMMS).

> **Important:** Field wiring lands on the **two lower screws** of each terminal block: **+** on the upper of the two, **–** on the bottom. The upper screws are factory wired. Relay terminals **A1** and **A2** are the relay coil and are also factory wired.



Field terminals. Pre-labeled UPS inputs (ALARM INPUTS), summary alarm relay (OUTPUT, COMMON ALARM) and Modbus RTU (COMMS)

Alarm inputs COM-7

All alarm inputs are **voltage-free dry-contact** signals. Use Belden 6300UE; inputs can be up to 1,000 ft from the equipment. Never apply voltage to an input.

Wiring the UPS contacts UPS-3

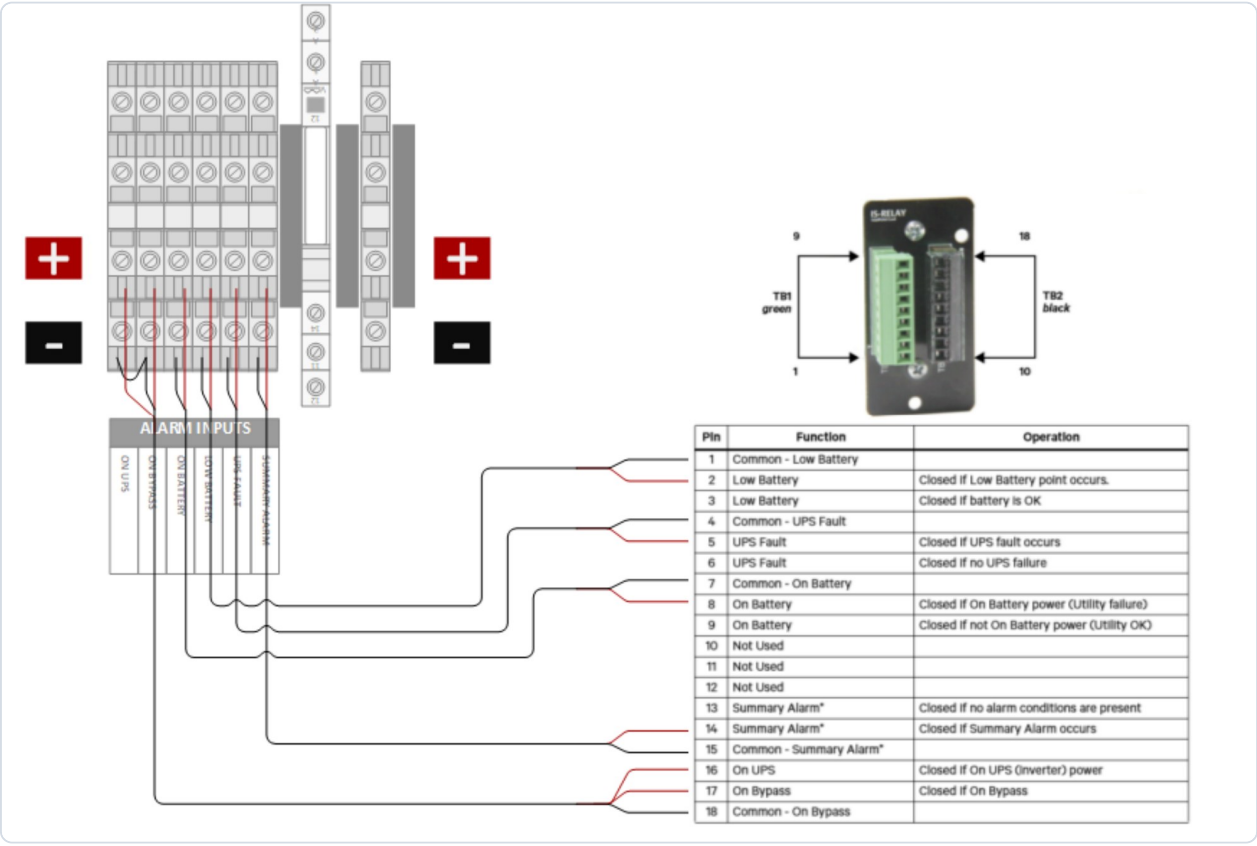
The alarm input terminals are pre-labeled: **ON UPS**, **ON BYPASS**, **ON BATTERY**, **LOW BATTERY**, **UPS FAULT** and **SUMMARY ALARM**. Connect each UPS dry-contact output to the terminal pair with the matching label, on the lower two screws (COM-6). The panel maps each labeled terminal to the correct input, so installers only need to match each UPS contact pair to its labeled terminal pair.

> **Important: ON UPS** is the normal state, so its input is set up for a **normally closed** contact: one that is closed while the load is on the UPS. If that contact opens, the panel alarms. The other five inputs use contacts that close when the condition occurs.

Example: a Vertiv relay card UPS-4

1. In the relay card's pin table, find the contact that **closes when the condition occurs**, plus its common. For example, Low Battery uses pins 1 (common) and 2 (closes on low battery).
2. Wire the closing contact to **+** and its common to **–** on the matching labeled input.
3. Repeat for On UPS, On Bypass, On Battery, UPS Fault and Summary Alarm.

> **Note:** Every UPS is different. Always check the pin list in the UPS manual or the relay card documentation. Liebert and Vertiv are trademarks of their respective owners.



Pin	Function	Operation
1	Common - Low Battery	
2	Low Battery	Closed if Low Battery point occurs.
3	Low Battery	Closed if battery is OK
4	Common - UPS Fault	
5	UPS Fault	Closed if UPS fault occurs
6	UPS Fault	Closed if no UPS failure
7	Common - On Battery	
8	On Battery	Closed if On Battery power (Utility failure)
9	On Battery	Closed if not On Battery power (Utility OK)
10	Not Used	
11	Not Used	
12	Not Used	
13	Summary Alarm*	Closed if no alarm conditions are present
14	Summary Alarm*	Closed if Summary Alarm occurs
15	Common - Summary Alarm*	
16	On UPS	Closed if On UPS (inverter) power
17	On Bypass	Closed if On Bypass
18	Common - On Bypass	

Example wiring from a UPS relay card. Always check the pin list for your UPS.

Summary alarm relay COM-8

The summary alarm relay switches when any input alarms. Its terminals are labeled **COMMON ALARM**. Use it for a beacon, a building annunciator or a BMS input. Contacts are rated **250 VAC/6 A** and **30 VDC/6 A**, Class 2 circuits only.

Terminal	Function	Use for
11	Common	Both connections
14	Normally Open (NO)	Wire 11–14 for a normally open contact
12	Normally Closed (NC)	Wire 11–12 for a normally closed contact

Modbus RTU COM-9

RS-485 on the **COMMS** terminals, + and −. Use **Belden 82761** shielded twisted pair. Defaults: Modbus address **254**, **19200** baud, **8-N-1**. Every input is published in Modbus registers; each panel's register list is in its own part of this guide.

Modbus/TCP (option) COM-10

If the Modbus/TCP option was ordered, connect the BMS network to the **LAN** port on the MS0-MBT adapter with CAT5e or better. Default address **192.168.0.7**, subnet mask **255.255.255.0**. The register list is the same as over Modbus RTU.

Recommended cable COM-12

Connection	Cable
Alarm inputs and relays	Belden 6300UE
Modbus RTU (RS-485)	Belden 82761 shielded twisted pair
Modbus/TCP (Ethernet)	CAT5e or better

05 Setup

Alarm delay and buzzer COM-14

- **Alarm delay:** 0 to 60 seconds, register **44001**. A contact change shorter than the delay does not alarm, which filters contact chatter and brief transfers.
- **Buzzer:** enabled or disabled with register **44000** (0 = enable, 1 = disable).

Configuration tools COM-15

Setup registers (44000 and up) can be written with any standard Modbus tool, such as WinTech's Modscan. The panel's Modbus address, serial settings and Modbus/TCP address are changed with the Pythia configuration tool, over the network or with a USB-to-RS-485 adapter. Contact Pythia technical support for the current version of the tool and its instructions.

06 Testing

Acknowledge and LED test COM-13

- **Acknowledge:** when an input alarms, the buzzer sounds. Press and hold **HOLD TO ACKNOWLEDGE** to silence it.
- **LED test:** hold the Acknowledge button for about five seconds. Every LED lights and the buzzer sounds.

Commissioning test UPS-5

1. **LED test.** Hold Acknowledge for about five seconds; every LED lights and the buzzer sounds.
2. **Each condition.** Have the UPS technician exercise each condition, for example a transfer to bypass or a battery test, and confirm the matching LED lights.
3. **Alarm outputs.** Each time, confirm the buzzer sounds and the summary alarm relay changes state.
4. **Acknowledge.** Press and hold HOLD TO ACKNOWLEDGE. The buzzer stops; the LED stays lit while the condition lasts.
5. **BMS.** Confirm the BMS reads each condition over Modbus, registers 41001 to 41006.

07 BMS integration

Modbus registers UPS-6

Description	Register	R/W	Values
On UPS, On Bypass, On Battery, Low Battery, UPS Fault, UPS Summary Alarm	41001–41006	R	0 = off, 1 = on
LED and relay for each condition, same order	42001–42006	R	0 = off, 1 = on
Input / rectifier LED	42008	R	0 = off, 1 = on
Alarm buzzer	42009	R	0 = off, 1 or more = on
Summary alarm relay	42012	R	0 = off, 1 or more = on
Product	43001	R	1
Version	43002	R	Released version
Buzzer configuration	44000	R/W	0 = enable, 1 = disable
Alarm delay	44001	R/W	0–60 seconds

Registers 42007, 42010 and 42011 are not used.

BACnet objects (MS0-MB adapter) UPS-7

Description	Object	R/W	Values
Communications	BV-1	R	0 = normal, 1 = alarm
On UPS, On Bypass, On Battery, Low Battery, UPS Fault, UPS Summary Alarm	BV-2 to BV-7	R	0 = off, 1 = on
Summary alarm LED and relay	BV-8	R	0 = off, 1 = on
Alarm delay	AV-1	R/W	0–60 seconds

BACnet/IP and SNMP (options) COM-11

With the optional **MS0-MB** adapter the panel is a BACnet/IP device, and with the optional **MS0-MS** adapter it is available over SNMP. Each panel's BACnet objects are listed in its own part of this guide. Contact Pythia technical support for the SNMP MIB file.

08 Troubleshooting

Troubleshooting COM-16

What you see	What to check	See
No POWER light	Panel power at the supply's **L** and **N** terminals; the supply's output	COM-5
An input never alarms	The contact is wired to the lower screws (+ upper, − lower); the input type (NO or NC) matches the contact	COM-6, RSP-3, LDP-4
An input is in alarm with nothing wrong	The input type is set the wrong way (NO instead of NC, or the reverse); a normally closed input with a broken wire alarms by design	RSP-3, LDP-4
An LED stays lit after the condition cleared	Latching is on for that input; acknowledge it	RSP-3, LDP-4
Brief alarms you don't want	Raise the alarm delay (register 44001)	COM-14
No buzzer	The buzzer may be disabled (register 44000 = 1)	COM-14
The BMS can't read the panel	Modbus address 254, 19200 baud, 8-N-1, RS-485 + and − polarity; for Modbus/TCP, 192.168.0.7 on the same subnet	COM-9, COM-10

Training video and documents UPS-8

The installation training video is at **pythiatech.com/training/ups-remote-status-panel**. The brochure and the installation guide (PTECH_Guide_CS0-RSP-UPS.pdf) are on **pythiatech.com/ups-remote-status-panel**.

TECHNICAL SUPPORT

740-363-2272

Business days, 8:00 a.m. to 3:00 p.m. ET · support@pythiatech.com

Installation training video
pythiatech.com/training/ups-remote-status-panel

Documents

Brochure and this guide: pythiatech.com/ups-remote-status-panel

AI assistant guide: Pythia_Tech_Remote_Status_Panels.txt

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